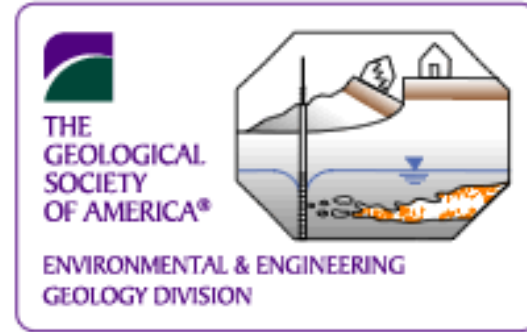
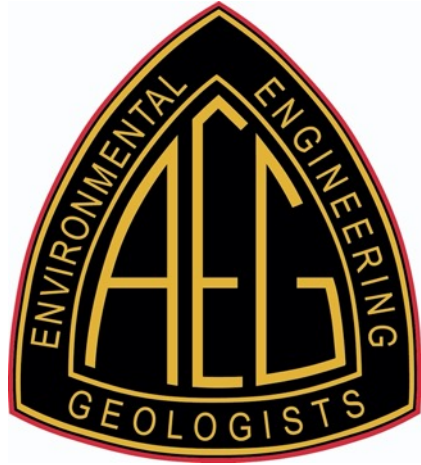




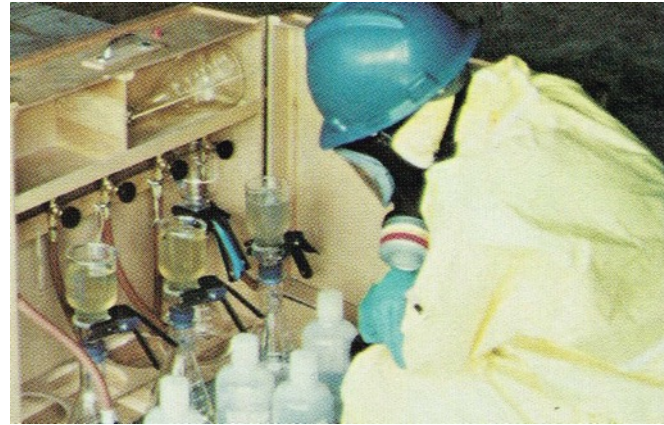
You Don't Look Like a Geologist

**Let's Talk about Diversity
(or the Lack Thereof) in the Geosciences**



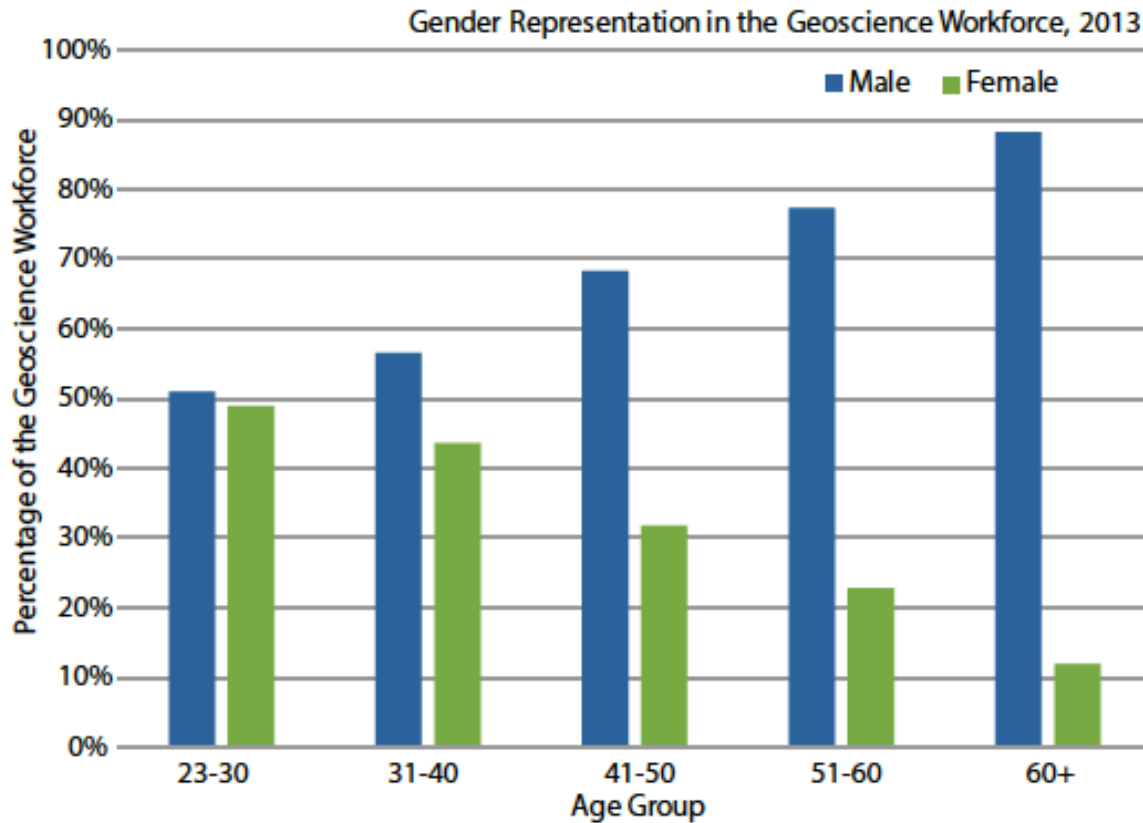
Richard H. Jahns Distinguished Lectureship In Applied Geology

2018-19 Deborah Green



According to statistics from surveys of geoscience graduates conducted by AGI during the 2016-2017 academic year 40% of geoscience graduates are women.

(Wilson, 2017)



(AGI Geoscience Currents No. 120, 2017)

It is time to start the conversation!



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Working for safe, inclusive and respectful workplaces. Provides Bystander Intervention Training to empower workers.

Earth Science Has a Whiteness Problem

Barely 10 percent of doctoral degrees in the geosciences go to recipients of color. The lack of diversity limits the quality of research, many scientists say.

By Emma Goldberg

Dec. 23, 2019

When Arianna Varuolo-Clarke was growing up, her favorite evenings were spent watching the Weather Channel with her grandfather. She wanted to “chase thunderstorms” and understand where tornadoes came from, she said. She decided to become an atmospheric scientist. In 2014, she landed an internship at the National Center for Atmospheric Research as a college sophomore, and quickly realized that her path as a woman of color would not be easy.

“You’d walk through the halls and it’s a lot of old white men,” Ms. Varuolo-Clarke said. Still, she pushed forward and began her Ph.D. in atmospheric science at Columbia University last year.

In most of the references used in this presentation, the “Geosciences” included:

Geology and Geological Sciences

Atmospheric Sciences and Meteorology

Oceanography

Geography

Astronomy

Environmental Sciences

Geoscience-related Engineering

According to the AGI survey from the 2016-2017 academic year <12% of geoscience graduates were underrepresented minorities.

(Wilson, 2017)

According to other sources, including an NSF publication, underrepresented minorities earned 16-17% of all STEM degrees, but only 5-7% of geoscience degrees.

(O'Connell and Holmes, 2011)

WHY?

What attracts students to geology?

- Positive experiences in introductory courses
- Outstanding field experiences
- Personal characteristics that mesh with the subject and fellow students, including a love for outdoor activities
- Family member or friend in the profession

(Stokes et al., 2015)

Which of these apply to you?

- 1) None of those four things attracted me to the geosciences.
- 2) One or more those four things attracted me to the geosciences.
- 3) I'm not a geologist, I just like hanging around you cool kids.



- Positive experiences in introductory courses
- Outstanding field experiences
- Personal characteristics that mesh with the subject and fellow students, including a love for outdoor activities
- Family member or friend in the profession

(Stokes et al., 2015)



What are my biases for and against, judgements on, and assumptions about?



What are yours?



What if you've been a victim of discrimination?



Which of these apply to you?

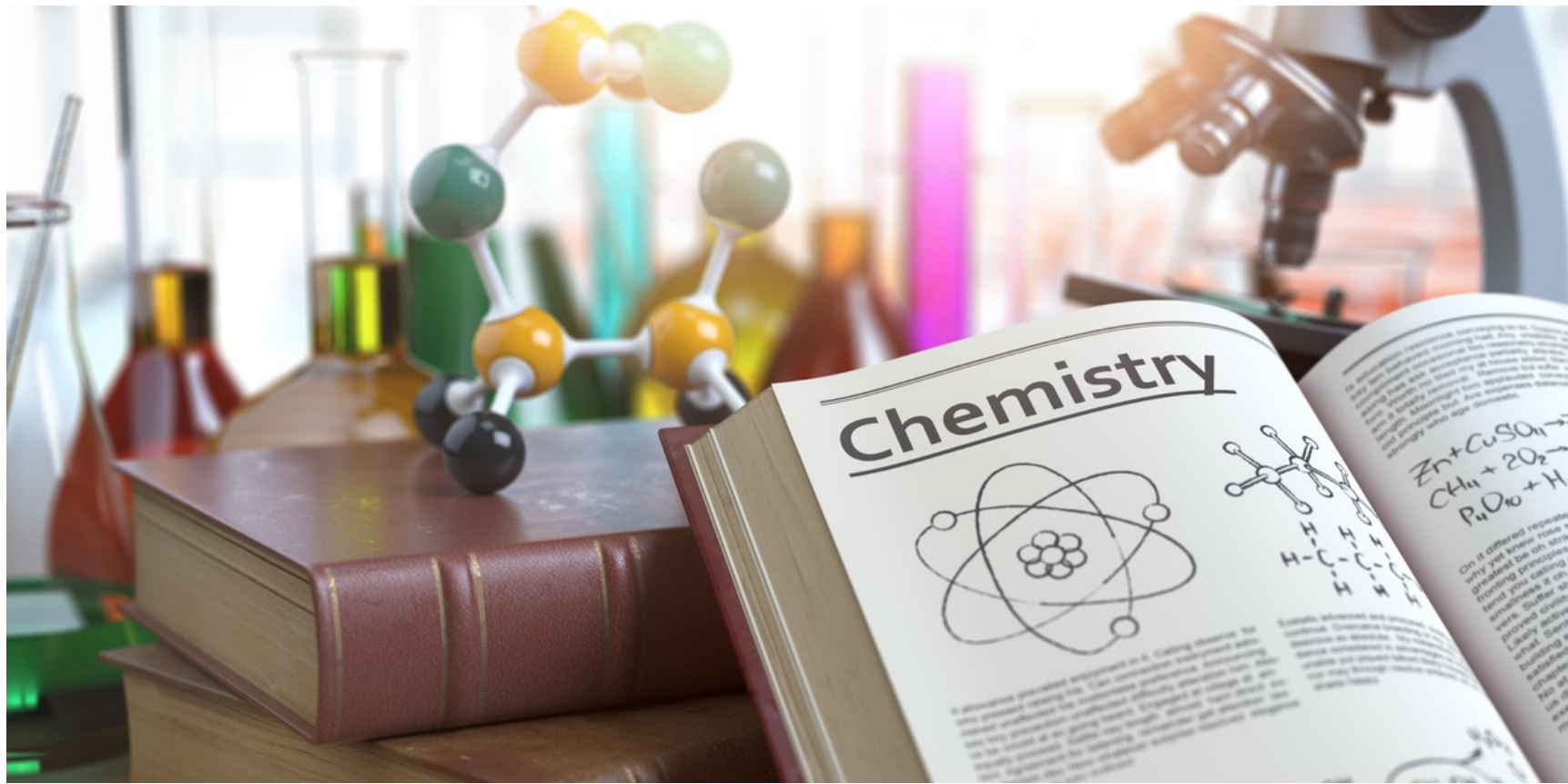
- 1) I have experienced discrimination at work.
- 2) I have not experienced discrimination at work.
- 3) I haven't been discriminated against, but I've seen it occur.
- 4) I have not seen instances of discrimination at work.

Interpersonal and institutional biases, and individual and systemic oppression are connected. *All* need to be addressed.



“Building relationships across difference means you have to do the internal work, both within the organization and within oneself, before you start reaching out...”

Carolyn Finney (from *Black Faces, White Spaces*, 2014)





Credit J. E. Huntoon

Graduate students at Michigan Technological University involved with the Michigan AGEP Alliance interdisciplinary learning community.

Programs that support minorities in STEM studies:

- National GEM Consortium (www.gemfellowships.org)
- Michigan Alliance for Graduate Education and the Professoriate (AGEP) (<http://wmich.edu/agep>)
- Fisk-Vanderbilt Master's to PhD Bridge Program (www.fisk-vanderbilt-bridge.org)
- GSA's On to the Future Program



Victoria Heath for AGI's 2017 Life as a Geoscientist contest

Undergraduate research technicians working with groundwater samples in the Laboratory for Environmental Analysis at Illinois State University.



Jackie Buskop for AGI's 2017 Life as a Geoscientist contest

Mazi Onyeali (University of Colorado, Boulder) and Pat Joseph (UWI Seismic Research Center) sampling hydrothermal waters in Watten Waven, Dominica.

Being inclusive isn't just the *right* thing to do, there's science that demonstrates it's the *smart* thing to do. Diverse teams do better science.

Are you a member of AEG?

1) Yes

2) No (Interested in joining? Go to **www.aegweb.org**)

If you are an AEG member, or will be soon, would you like to be involved in the Association's efforts to increase diversity, equity, and inclusion in the geosciences?

- 1) Yes! (Please leave your name & email in the question box)
- 2) Too busy right now, maybe later on (Contact me in 2021)
- 3) No thanks.

Deborah Green

— GE  LOGIST Writer —

geologistwriter.com/distinguished-lecturer/



geologistwriter.com

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